REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

The Examiner objects to the Abstract because it contains reference numerals and refers to a particular figures. This references have been removed by amendment. Withdrawal to the Abstract is respectfully requested.

Claim 17 stands objected to under 37 CFR 1.75(c) as allegedly being in improper dependent form and failing to further limit the subject matter of a previous claim. Particularly the Examiner contends that claim 16 already recites "the execution of instructions to control processing, instructions that inherently reside on some sort of computer readable medium (computer program product). Therefore, because there is no way that the processing of instructions of claim 16 can function as claimed without the instructions being comprised on the computer program product, claim 17 fails to further limit the subject matter of claim 16." This objection is respectfully traversed.

Claim 16 is a method claim, and it specifically recites steps for processing data. As a method claim, it is not limited to a particular apparatus or other structure. In particular, it is not limited to being used in conjunction with a computer program product. For example, the method steps could be implemented in a computer or other data processor whose memory stores program instruction. Nor is a computer or data processor the same thing as computer program product. Claim 17 is different from claim 16 because it is not a method claim. It is an apparatus claim specifically directed to a computer program product. A computer program user that actually implements the method steps of claim 16 may not make or sell computer program products that store that computer program. On the other hand, a software manufacture may not sell computers, but instead may only sell computer program products that store computer programs that control a

computer. Such a manufacturer may not be directly infringing a method claim, although it could be indirectly infringing the claim. But that manufacturer would be directly infringing claim 17 assuming that the sold product included a computer program for controlling a computer to perform the method of claim 16.

Thus, the Examiner's characterization of claim 17 is incorrect. First, it is not a method claim, but rather an apparatus claim. Second, it does define something different from the method claim as explained above. Third, the Examiner's attention is directed to a recently issued U.S. Patent 6,795,841 which includes a method claim 1 for "processing input data words." Claim 15 recites "a computer program including a computer program for controlling a data processing apparatus to perform data processing in accordance with the method as claimed in claim 1." This is just one example of many in which the U.S. PTO has properly issued this type of claim. Withdrawal of the Rule 1.75(c) objection is respectfully requested.

The Examiner notes a number of informalities to claims 1-15, along with suggestions of overcoming those informalities. The claims have been amended as requested by the Examiner.

Claims 3 and 11 stand rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite. This rejection is respectfully traversed.

Claim 3 has been amended to specify that "said control signals match control signals produced on decoding instructions of said first instructions set." This amendment clarifies that the control signals are equivalent to signals produced by decoding instructions of the first instruction set. Claim 11 has been amended to recite "said at least one instruction of said second instruction set" to overcome the antecedent basis raised by the Examiner. Withdrawal of the rejection under 35 U.S.C. §112, second paragraph is respectfully requested.

Claims 1-7, 11, 12, and 16-17 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,307,504 to Robinson et al. This rejection is respectfully traversed.

To establish that a claim is anticipated, the Examiner must point out where each and every limitation in the claim is found in a single prior art reference. *Scripps Clinic & Research Found. v. Genentec, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991). Every limitation contained in the claims must be present in the reference, and if even one limitation is missing from the reference, then it does not anticipate the claim. *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Robinson fails to satisfy this rigorous standard.

Robinson describes translating a complex instruction set code (CISC) to produce a program of reduced instruction set code (RISC). Each CISC instruction is translated into a sequence of RISC instructions, and each sequence includes four groups of instructions. Robinson seeks to "preserve instruction granularity in the translation process." Column 4, lines 18 and 19. The idea is that when several RISC instructions corresponding to the translated CISC instructions are being executed, they should produce the same result that the corresponding CISC instruction would have produced, even though "asynchronous events may occur during execution of any of the 'granules' of simpler translated instructions." Column 4, lines 24-26.

Robinson fails to teach every feature of the independent claims. For example, Robinson fails to disclose the claimed instruction translator which generates a sequence of one or more sets of translator output signals corresponding to the first set to represent an instruction from the second instruction set, "each sequence being such that no change is made to said one or more input variables until a final operation within said sequence is executed." The Examiner, in subparagraph 15(e), relies on column 11, lines 58-65 as allegedly teaching this quoted feature.

In the preceding text, Robinson describes a "translated sequence that is interrupted before the second instruction group completes is forced to restart at the beginning of the sequence." Column 11, lines 49-51. Alternatively, "[a] translated sequence that is interpreted after the second instruction group completes but before the third instruction group completes is forced to complete the third instruction with simple register moves." Column 11, lines 53-57. In other words, Robinson teaches that the translated sequence is suspended before completion of the group of instructions and retried from the beginning of the sequence later, or it executes from beginning to end with no other translated sequence in the middle. But Robinson fails to disclose that "no changes are made to the input variables until execution of a final operation in the sequence." Lacking this feature, Robinson fails to anticipate claims 1, 16, and 17.

Nor does Robinson suggest to a person of ordinary skill in the art that no changes are made to input variables until execution of a final operation and a sequence. To the contrary, Robinson teaches away from this feature. In column 7, lines 15-37, Robinson discloses that when a non-native X instruction is translated to a native Y instruction, the translated code instructions are grouped and ordered as follows:

1) a first group of G1 of instructions that get inputs and place those inputs in temporary storage;
2) a second group G2 of instructions that operate on inputs generate modified results that store those results to *temporary* storage;
3) a third group G3 of instructions that update the memory or register (i.e. update the untranslated instruction, X, state) and are *subject* to possible exceptions (e.g., for RISC zero or one store instructions to a full aligned longword or quadword);

4) a last group G4 of instructions that update the memory or register (i.e., update the untranslated instruction, X, state) and are *free of* possible exceptions (e.g., simple register moves-see Robinson, column 11, lines 53-56).

From the above grouping and ordering of the instructions disclosed by Robinson, it is clear that in that system, instructions *other than the last instruction* in sequence result in changes to the input variables. In particular, the G3 instructions update the memory or register, and hence, make changes to the input variables; yet, the G4 instructions follow the G3 instructions in the ordered sequence. Thus, Robinson teaches that changes are made to the input variables prior to execution of a final operation in the sequence. This teaching is contrary to what is claimed.

Indeed, the instant inventors recognized that by generating the translated sequence of instructions in an order such that no change is made to the input variables until a final operation within the sequence is executed, the interrupt can be serviced directly after execution of any instruction that is currently executing when the interrupt is generated and before execution of a subsequent instruction, regardless of the particular point in an execution sequence when the interrupt occurs. As specified in the claims, if the interrupt signal occurred prior to starting execution of the final operation then, following the interrupt, execution is re-started at the first operation in the translated sequence. This can be done without compromising the accuracy of the computation results, since it is known that no changes have yet been made to the input variables. Otherwise, if the interrupt signal occurred after the final operation of the sequence started to execute, then the execution re-starts at the next instruction following the translated sequence. In this way, interrupt latency is improved without compromising the accuracy of the computation results.

Although the Examiner has made an obviousness rejection of remaining claims 8-10, and 13-15 based on the combination of Robinson, in view of U.S. Patent 5,898,885 to Dickol et al., it is not apparent how Dickol remedies the deficiencies of Robinson noted above. Therefore, the specific contentions made by the Examiner in numbered paragraphs 28-39 need not be addressed.

The application is condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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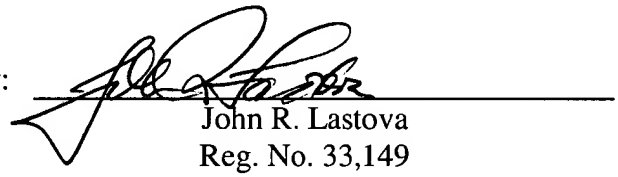
By: 
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